190468 US KDN

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/626,827	07/23/2003	Ye Hua	AG0055-01-US	9227

28940 7590 02/09/2005

AGOURON PHARMACEUTICALS, INC.
10350 NORTH TORREY PINES ROAD
LA JOLLA, CA 92037

EXAMINER	
POWERS, FIONA	

ART UNIT	PAPER NUMBER
1626	

DATE MAILED: 02/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/626,827	HUA ET AL.	
	Examiner	Art Unit	
	Fiona T. Powers	1626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 November 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) *6-18 and 22 to 24* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3 and 19-21* is/are rejected.

7)☒ Claim(s) *4, 5 and 25* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *11/3/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Receipt is acknowledged of the preliminary amendments filed July 23, 2003 and January 12, 2004, the information disclosure statement filed November 3, 2003 and the responses filed July 6, 2004 and November 22, 2004, which have been entered in the file.

Applicant's election with traverse of Group I, claims 1 to 5 and claims 19 to 21 and 25 in part and Example 8 in the replies filed on July 6, 2004 and November 22, 2004 is acknowledged. The traversal is on the ground(s) that it would not be an undue burden to search all of the claims. This is not found persuasive because it would be an undue burden on the examiner and the patent office resources to search all of the claims as separate patent, literature and computer searches would need to be done.

The requirement is still deemed proper and is therefore made FINAL.

Claims 6 to 18 and 22 to 24 and claims 19 to 21 and 25 in part stand withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the replies filed on July 6, 2004 and November 22, 2004.

The first sentence of the specification should be amended to include the patent number of the parent application.

Claims 19 to 21 and 25 are objected to because of the following informalities: the claims contain non-elected subject matter. Appropriate correction is required.

The first sentence of the specification should be amended to include the patent number of the parent application.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 to 3 and 19 to 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Webber et al. (Chemical Abstracts, 131:45107, 1999), cited.

The reference discloses the claimed compounds and pharmaceutical composition wherein R^{a1} is substituted heterocycloalkyl, R^b, R^d and Z^1 are hydrogen, R^c is $-CH_2CH_2C(O)NH_2$ and Z is $-C(O)OCH_2CH_3$. Note Registry Numbers 227613-15-2, 227613-17-4, 227613-18-5 and 227613-19-6.

Claims 4 and 5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The references made of record and not relied upon show the state of the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fiona T. Powers whose telephone number is 571-272-0702. The examiner can normally be reached on Monday - Friday 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph K. McKane can be reached on 571-272-0699. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Fiona T. Powers
Fiona T. Powers
Primary Examiner
Art Unit 1626

ftp
February 5, 2005

Notice of References Cited

Application/Control No.	Applicant(s)/Patent Under Reexamination	
10/626,827	HUA ET AL.	
Examiner	Art Unit	Page 1 of 1
Fiona T. Powers	1626	

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	A	US-			
	B	US-			
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	Webber et al., Chemical Abstracts, 131:45107, 1999.
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

ACCESSION NUMBER: 1999:404983 CAPLUS
DOCUMENT NUMBER: 131:45107
TITLE: Preparation of peptidyl antipicornaviral compounds
INVENTOR(S): Webber, Stephen E.; Dragovich, Peter S.; Prins, Thomas J.; Littlefield, Ethel S.; Marakovits, Joseph T.; Babine, Robert E.
PATENT ASSIGNEE(S): Agouron Pharmaceuticals, Inc., USA
SOURCE: PCT Int. Appl., 187 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9931122	A1	19990624	WO 1998-US26583	19981215
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 5962487	A	19991005	US 1997-991739	19971216
CA 2312940	AA	19990624	CA 1998-2312940	19981215
AU 9918262	A1	19990705	AU 1999-18262	19981215
AU 762682	B2	20030703		
EP 1037905	A1	20000927	EP 1998-963184	19981215
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
BR 9813651	A	20001003	BR 1998-13651	19981215
JP 2002508389	T2	20020319	JP 2000-539045	19981215
NO 2000003067	A	20000815	NO 2000-3067	20000615
PRIORITY APPLN. INFO.:			US 1997-991739 A	19971216
			WO 1998-US26583 W	19981215

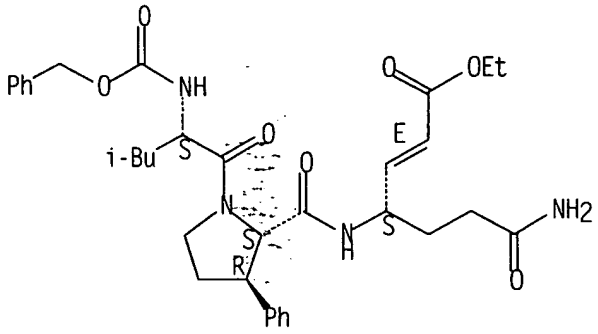
OTHER SOURCE(S): MARPAT 131:45107
ABSTRACT:
Picornaviral 3C protease inhibitors R8R4NCR3R6C(:M)NR7CR2R5CR1:CZZ1 [M = O, S; R1 = H, F, alkyl, OH, SH, O-alkyl group; R2, R5 = H, alkyl, X-Y1-A1(B1)D1, X-Y2-A2(B2)D2 (X = :CH, :CF, CH2, CF2, CHF, S; Y1, Y2 = :CH, :CF; or X and Y1 or Y2 may form a ring; A1, A2 = C, CH, CF, S, P, Se, N, etc.; D1 and D2 are moieties with a lone pair of electrons capable of forming a hydrogen bond; B1, B2 = H, F, alkyl, cycloalkyl, heterocycloalkyl, aryl, heteroaryl, etc.), R3, R6 = H, F, alkyl, cycloalkyl, heterocycloalkyl, aryl, heteroaryl, CHO, OH, SH, etc.; R4 is any suitable organic moiety or R4 and R3 or R6 may form a ring; R7, R8 = H, alkyl, cycloalkyl, heterocycloalkyl, aryl, heteroaryl, etc. or R4 and R8 may form a ring; Z, Z1 are H, F, alkyl, cycloalkyl, heterocycloalkyl, aryl, heteroaryl, etc.] were prepared Thus, Et 3-(Cbz-L-N-Me-Phe-L-Gln)-E-propenoate (Cbz = benzyloxycarbonyl) was prepared and showed Ki >100 μM for inhibition of Rhinovirus protease.

IT **227613-08-3P 227613-09-4P 227613-10-7P**
227613-11-8P 227613-13-0P 227613-14-1P
227613-15-2P 227613-17-4P 227613-18-5P
227613-19-6P 227613-27-6P 227613-40-3P
227613-41-4P 227613-42-5P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of peptidyl antipicornaviral compds.)

RN 227613-08-3 CAPLUS

CN L-Prolinamide, N-[(phenylmethoxy)carbonyl]-L-leucyl-N-[(1S,2E)-1-(3-amino-3-oxopropyl)-4-ethoxy-4-oxo-2-butenyl]-3-phenyl-, (3R)- (9CI) (CA INDEX NAME)

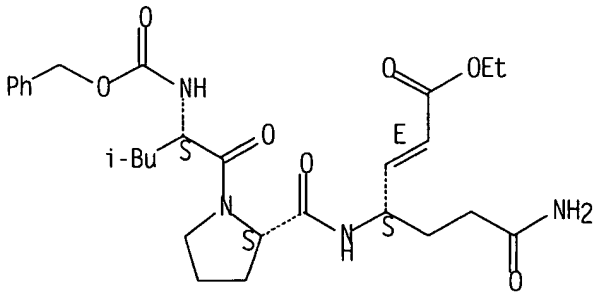
Absolute stereochemistry.
Double bond geometry as shown.



RN 227613-09-4 CAPLUS

CN L-Prolinamide, N-[(phenylmethoxy)carbonyl]-L-leucyl-N-[(1S,2E)-1-(3-amino-3-oxopropyl)-4-ethoxy-4-oxo-2-butenyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

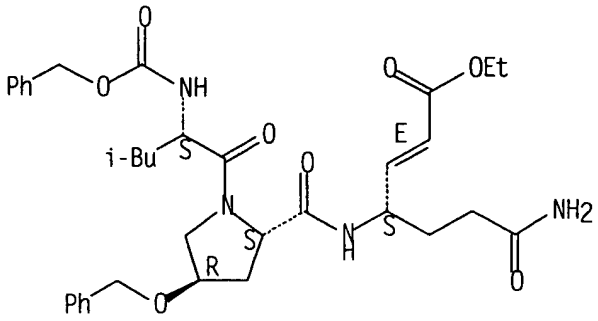


RN 227613-10-7 CAPLUS

CN L-Prolinamide, N-[(phenylmethoxy)carbonyl]-L-leucyl-N-[(1S,2E)-1-(3-amino-

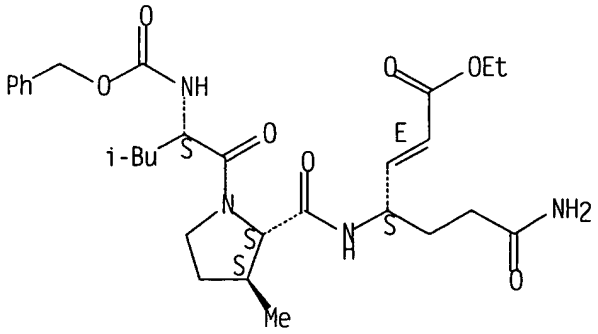
3-oxopropyl)-4-ethoxy-4-oxo-2-butenyl]-4-(phenylmethoxy)-, (4R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



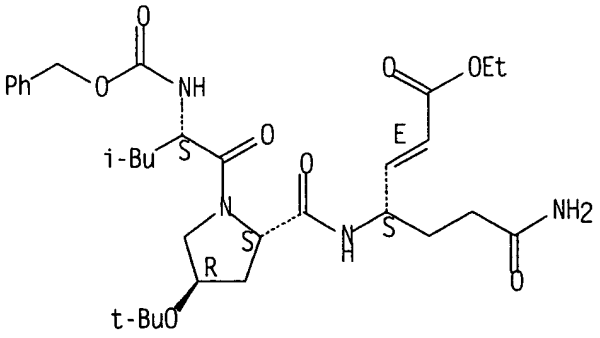
RN 227613-11-8 CAPLUS
CN L-Prolinamide, N-[(phenylmethoxy)carbonyl]-L-leucyl-N-[(1S,2E)-1-(3-amino-3-oxopropyl)-4-ethoxy-4-oxo-2-butenyl]-3-methyl-, (3S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



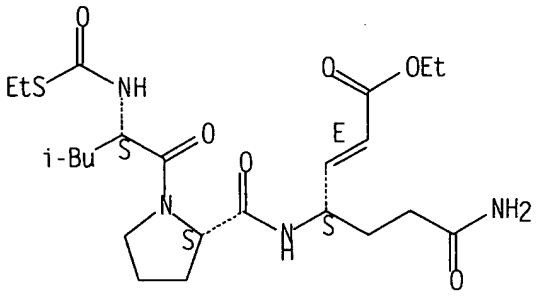
RN 227613-13-0 CAPLUS
CN L-Prolinamide, N-[(phenylmethoxy)carbonyl]-L-leucyl-N-[(1S,2E)-1-(3-amino-3-oxopropyl)-4-ethoxy-4-oxo-2-butenyl]-4-(1,1-dimethylethoxy)-, (4R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



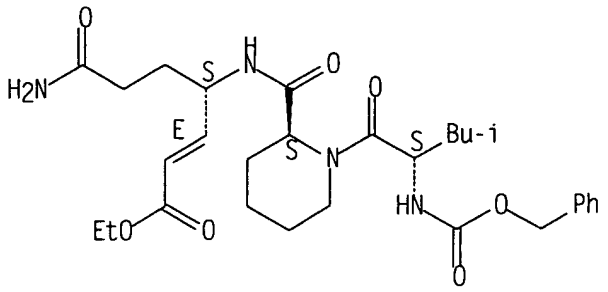
RN 227613-14-1 CAPLUS
CN L-Prolinamide, N-[(ethylthio)carbonyl]-L-leucyl-N-[(1S,2E)-1-(3-amino-3-oxopropyl)-4-ethoxy-4-oxo-2-butenyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



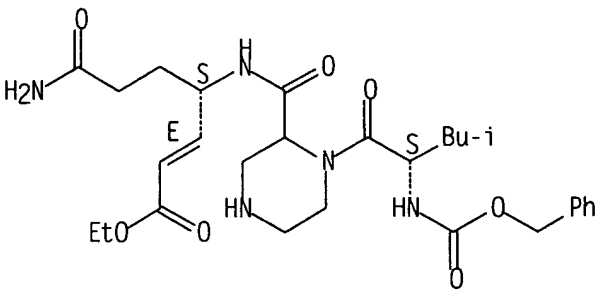
RN 227613-15-2 CAPLUS
CN 2-Heptenoic acid, 7-amino-4-[[[(2S)-1-[(2S)-4-methyl-1-oxo-2-[[(phenylmethoxy)carbonyl]amino]pentyl]-2-piperidinyl]carbonyl]amino]-7-oxo-, ethyl ester, (2E,4S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



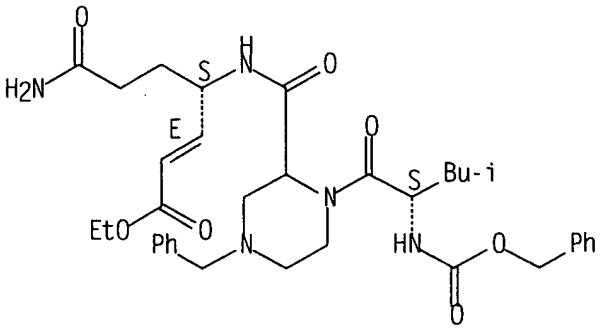
RN 227613-17-4 CAPLUS
CN 2-Heptenoic acid, 7-amino-4-[[[1-[(2S)-4-methyl-1-oxo-2-[[(phenylmethoxy)carbonyl]amino]pentyl]-2-piperazinyl]carbonyl]amino]-7-oxo-, ethyl ester, (2E,4S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



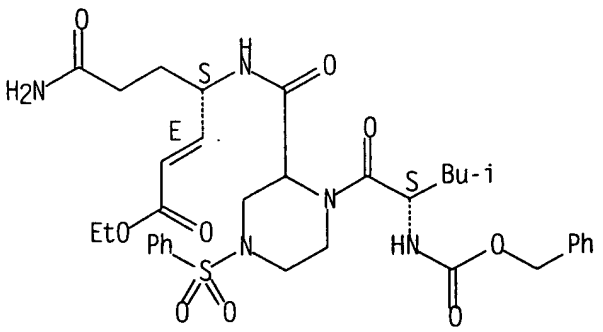
RN 227613-18-5 CAPLUS
CN 2-Heptenoic acid, 7-amino-4-[[[1-[(2S)-4-methyl-1-oxo-2-[[(phenylmethoxy)carbonyl]amino]pentyl]-4-(phenylmethyl)-2-piperazinyl]carbonyl]amino]-7-oxo-, ethyl ester, (2E,4S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



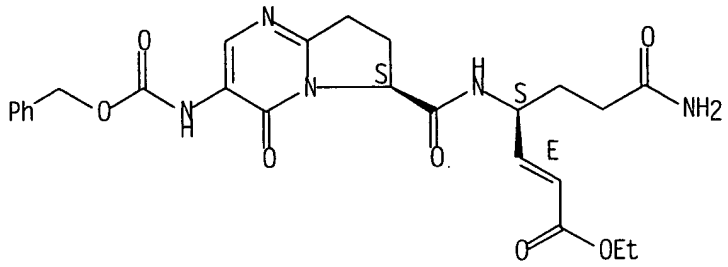
RN 227613-19-6 CAPLUS
CN 2-Heptenoic acid, 7-amino-4-[[[1-[(2S)-4-methyl-1-oxo-2-[[(phenylmethoxy)carbonyl]amino]pentyl]-4-(phenylsulfonyl)-2-piperazinyl]carbonyl]amino]-7-oxo-, ethyl ester, (2E,4S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



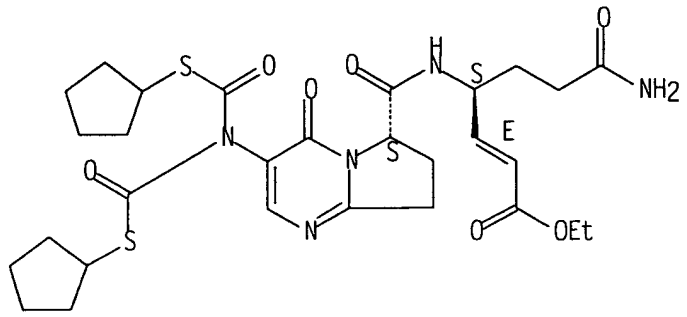
RN 227613-27-6 CAPLUS
CN 2-Heptenoic acid, 7-amino-7-oxo-4-[[[(6S)-4,6,7,8-tetrahydro-4-oxo-3-[[(phenylmethoxy)carbonyl]amino]pyrrolo[1,2-a]pyrimidin-6-yl]carbonyl]amino]-, ethyl ester, (2E,4S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



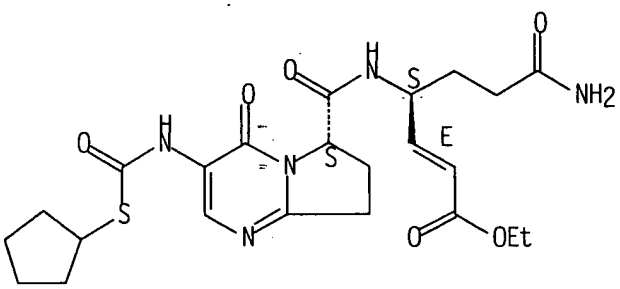
RN 227613-40-3 CAPLUS
CN 2-Heptenoic acid, 7-amino-4-[[[(6S)-3-[bis[(cyclopentylthio)carbonyl]amino]-4,6,7,8-tetrahydro-4-oxopyrrolo[1,2-a]pyrimidin-6-yl]carbonyl]amino]-7-oxo-, ethyl ester, (2E,4S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



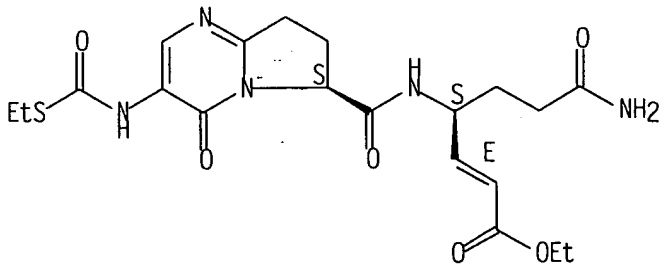
RN 227613-41-4 CAPLUS
CN 2-Heptenoic acid, 7-amino-4-[[[(6S)-3-[[(cyclopentylthio)carbonyl]amino]-4,6,7,8-tetrahydro-4-oxopyrrolo[1,2-a]pyrimidin-6-yl]carbonyl]amino]-7-oxo-, ethyl ester, (2E,4S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 227613-42-5 CAPLUS
CN 2-Heptenoic acid, 7-amino-4-[[[(6S)-3-[[(ethylthio)carbonyl]amino]-4,6,7,8-tetrahydro-4-oxopyrrolo[1,2-a]pyrimidin-6-yl]carbonyl]amino]-7-oxo-, ethyl ester, (2E,4S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT